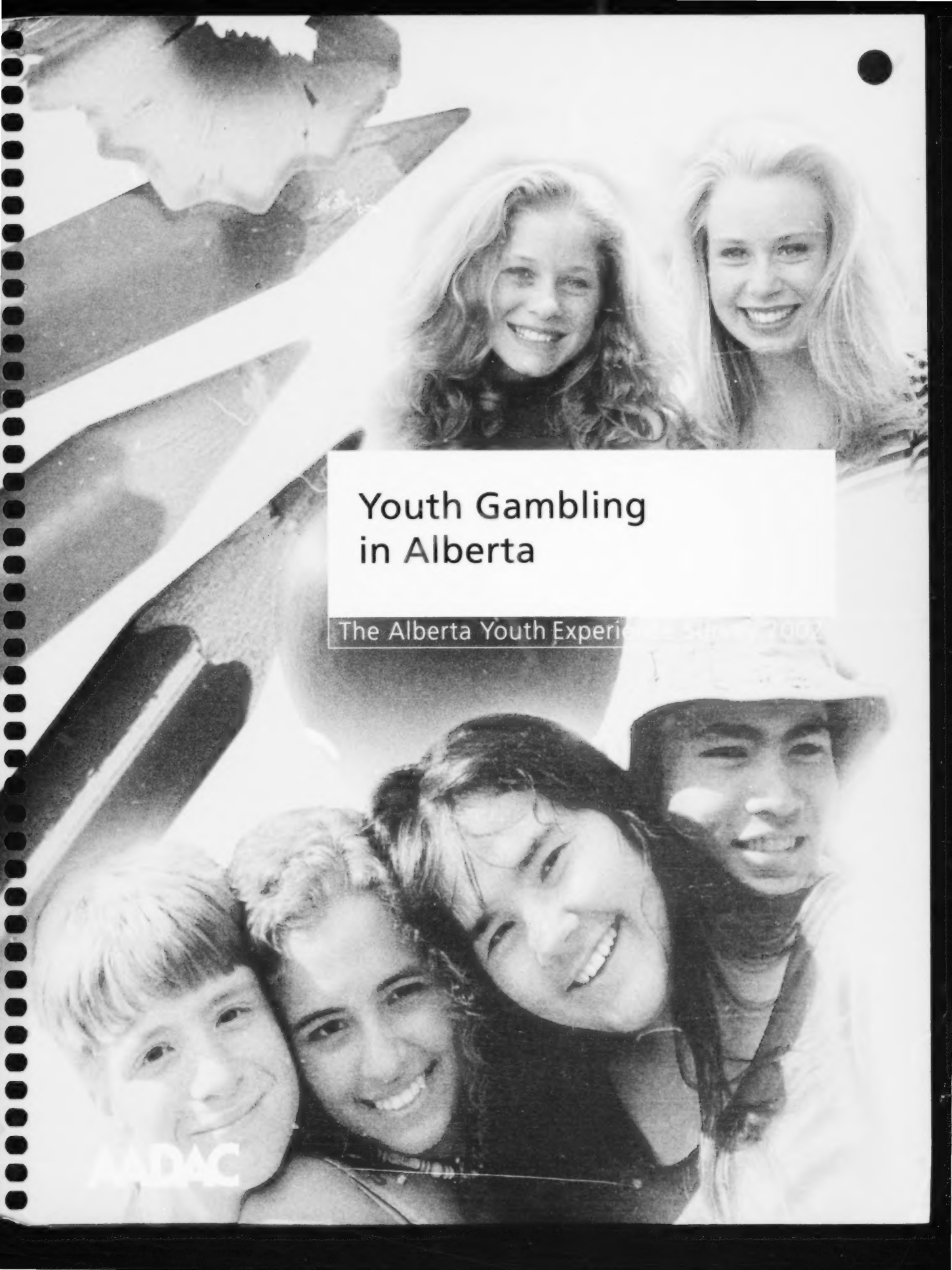

# Youth Gambling in Alberta

The Alberta Youth Experi

AADAC

106-06937/

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Alberta Alcohol and Drug Abuse Commission (AADAC)

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Citation of this source is appreciated.

# EXECUTIVE SUMMARY

*Youth Gambling in Alberta* is one of a series of summary reports developed from The Alberta Youth Experience Survey 2002 (TAYES). It focuses on the gambling behaviour of Alberta adolescents in grades 7 to 12.

The report is structured in two parts:

- Part I presents TAYES methods and findings about youth gambling in Alberta.
- Part II explores youth gambling research literature that relates to the TAYES findings.

## Part I: TAYES Methods and Findings

- The majority of young people in Alberta (58.8%) do not gamble.
- An additional third of Alberta youth (31.7%) are non-problem gamblers.
- A small proportion of Alberta youth are classified as either hazardous gamblers (5.7%) or problem gamblers (3.8%). This represents 13,075 and 8,821 young people respectively.
- The most common youth gambling activities (based on a pre-selected list) are playing scratch tabs (30.8%), playing cards for money (23.0%), and betting on sporting events with friends (21.1%).
- Grade, gender, and ethnicity are all significantly related to Alberta young people's levels of participation in gambling. Young people are more likely to have gambled or to be hazardous or problem gamblers if they are
  - in grades 10 to 12
  - male
  - Aboriginal
- Neither the region of Alberta nor the size of the community in which young people live is significantly related to levels of participation in gambling.
- Alberta young people who are hazardous or problem gamblers are more likely to have a number of risk factors. They are more likely to
  - be older
  - have close friends who smoke, drink, abuse drugs, break the law, or gamble
  - have a history of substance abuse in their family
  - feel disconnected from school
  - show signs of leaving school early

## Part II: Related Youth Gambling Research

- Young people in Alberta exhibit the same general patterns of gambling participation as other North American youth.
- Research about adolescent gambling is a relatively new field. Further studies are needed to establish
  - risk factors and underlying causes
  - gambling patterns, prevalence, and trends
  - levels of harm related to adolescent gambling
  - valid, reliable screening tools to identify the prevalence and consequences of youth gambling and problem gambling
  - standardized operational terminology to describe gambling behaviour and facilitate cross-jurisdictional comparisons of youth gambling research
  - the impact of newer, electronic forms of gambling (including Internet gambling and video lottery terminals [VLTs]) on young people

# INTRODUCTION

## About TAYES

The Alberta Youth Experience Survey 2002 (TAYES) sought to answer questions about the proportion of Alberta youth who gambled or used alcohol, tobacco or other drugs and the proportion of Alberta youth who gambled or used substances in a harmful way. The survey also sought to investigate the factors that

- helped protect adolescents from harmful substances
- increased adolescents' risk of substance use or abuse or gambling

In 2003, the Alberta Alcohol and Drug Abuse Commission (AADAC) prepared three reports based on TAYES: a summary report (Alberta Alcohol and Drug Abuse Commission [AADAC], 2003c), a technical report (AADAC, 2003d), and an overview of risk and protective factors (AADAC, 2003b). The current report is one of a series of special topical reports intended for use by professional educators and addictions workers. Like other TAYES topical reports, it is intended to provide more detail on TAYES results and relevant literature than is contained in the summary report (AADAC, 2003c).

Additional copies of this and other reports related to TAYES can be ordered from AADAC or downloaded for free from the AADAC website.

## About This Report

The introduction to this report provides a working definition of gambling and an overview of the gambling scene in Alberta.

Part I of the report summarizes TAYES results related to youth gambling. It also describes the study sample and method.

Part II of the report explores youth gambling research literature that relates to the TAYES findings. It discusses youth gambling within the context of gambling in Alberta and Canada as a whole. It outlines the various ways that problem gambling among youth is defined and measured. It discusses the prevalence of youth gambling, the factors that make young people susceptible to gambling problems, and the consequences of problem gambling.

## Gambling Defined

AADAC defines **gambling** as "the act of risking money or something else of value on an activity with an uncertain outcome" (AADAC, 2004).

AADAC (2005) defines **problem gambling** as gambling behaviour that adversely affects gamblers or their families, friends, or communities. It defines the characteristics of problem gambling as

- continuous or periodic loss of control over gambling behaviour
- preoccupation with gambling and with obtaining money to gamble
- irrational thinking
- continuation of gambling behaviour despite negative consequences

Problem gambling can create ongoing, serious consequences such as depression, stress-related conditions such as insomnia and back pain, interpersonal conflict, alienation from family and friends, criminal behaviour, and poor performance at school or at work (AADAC, 2005).

Some researchers suggest there is no clear transition point between gambling and problem gambling. Rather, gambling behaviour varies over the course of a gambler's lifetime and can move back and forth between non-problematic and severely problematic (Ontario Problem Gambling Research Centre, 2003; Canadian Health Network, n.d.).

## Gambling in Alberta

Gambling is a rapidly growing industry that creates employment and generates billions of dollars for government programs, for the tourism industry, for arts and culture, and for charities and communities

across the province. In 2003-2004, gambling raised $226 million for Alberta charities (an increase of 9.7% from the previous year) and contributed more than 4% ($1.2 billion) to the province's total revenue (Alberta Finance, 2004; P. Arnold-Schutta, personal communication, April, 2005).

Although the personal and social costs of gambling are still not well understood, most Canadians view gambling as a socially accepted activity (Azmier, 2001a).

Most gambling in Alberta (James, 2003) is governed by Canada's Criminal Code* and by the province's Gaming and Liquor Act. The Act is administered and regulated by the Alberta Gaming and Liquor Commission. It covers

- charitable gaming (including bingos, casinos, raffles, pull tickets)
- provincial lotteries (including VLTs, slot machines and ticket lotteries)
- liquor sales and consumption

Horse racing is regulated by the Alberta Racing Corporation under the Horse Racing Alberta Act. Internet gambling, playing cards for money (except in casinos), and online or in-person betting on sporting events are covered under the Criminal Code of Canada.

Gambling age restrictions are set by the Gaming and Liquor Act and Alberta Gaming and Liquor Commission policy (Alberta Gaming, 2005; J. Annett, personal communication, March 2005). Policy dictates that minors cannot buy or redeem lottery tickets, raffle tickets, or pull tickets. The Gaming and Liquor Act dictates that VLTs are allowed only on premises that are off-limits to minors—although the law does not actually prohibit minors from playing VLTs. The Gaming and Liquor Act also prohibits minors from entering casinos and bingo facilities that offer electronic gaming.

* The Criminal Code gives provinces sole authority to manage and conduct gambling activities.

# PART I
# TAYES METHODS AND FINDINGS

## Method

TAYES 2002 was based on an 84-question survey administered to a representative sample of Alberta young people in grades 7 to 12. This report analyzes the data collected for TAYES 2002. The survey methods are reported in detail in *The Alberta Youth Experience Survey 2002: Technical Report* (AADAC, 2003d).

## Ethics, Confidentiality and Consent

TAYES 2002 was conducted in compliance with the Health Information Act and the Freedom of Information and Protection of Privacy Act. Ethics approval was granted by the Community Research Ethics Board of Alberta.

Active, informed parental consent was obtained in accordance with the requirements of the ethics review board (see the TAYES technical report [AADAC, 2003d] for details). The TAYES parental consent response rate of 52% is consistent with those of similar surveys that required active informed consent.

Schools that took part in the survey kept the names of participants and their parents confidential. Research staff had no access to these names, nor were the names of participating schools made public. Survey results were reported on an aggregate basis and did not identify individuals, communities, or schools.

## The Sample

The TAYES 2002 survey sample of 3,394 is representative of most Alberta young people in grades 7 to 12. The survey sample was designed as a stratified random cluster sample with selection proportionate to classroom size. It was stratified by five regions aggregated from regional health authority boundaries as they existed in April 2002 and by school grade. The survey was administered in randomly selected classrooms in 89 schools in 39 school divisions throughout the province. Private, federal and provincial schools were excluded.

The young people in the sample ranged from 11 to 20 years old, although most (96.2%) were between 12 and 17. Two per cent (2%) of the sample were between 18 and 20 years old.

## Data Collection and Analysis

TAYES participants completed an 84-question survey administered by research staff in October and November 2002. The survey and the process for administering it were tested in one school with students in grades 7 to 12. (The French-language version of the survey was tested in a French immersion class.)

Details about the survey process are outlined in the TAYES technical report (AADAC, 2003d). The report also describes the quality control measures taken to ensure the validity of the data.

Chi-square tests were conducted on the six demographic variables used to analyze the gambling behaviour of TAYES participants. Details about analysis methods, statistical significance measures, and confidence intervals are provided in the TAYES technical report (AADAC, 2003d).

## The Gambling Screen

TAYES 2002 included 14 questions designed to collect information about youth gambling. One survey question established the prevalence and frequency of gambling by asking respondents to indicate how often they participated in eight gambling or betting activities. Another question determined survey participants' age when they first gambled or bet for money or possessions. The South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA)* comprised an additional 12 questions designed to identify hazardous (at-risk) and problem gambling behaviour. This screen has been used extensively in adolescent gambling studies in Canada and the United States (Rossen, 2001; Langhinrichsen-Rohling, Rohling, Rohde, & Seeley, 2004). SOGS-RA includes 16 questions, 12 of which are scored to identify problem gambling behaviour (Derevensky

* The original South Oaks Gambling Screen (SOGS)—published by Henry Lesieur and Sheila Burns in 1987—was revised and adapted for adolescents by Winters, Stinchfield, and Fulkerson in 1993.

& Gupta, 2000; Langhinrichsen-Rohling et al., 2004). Each question deals with a possible gambling problem: a score of 1 (rather than 0) indicates that the problem applies. The overall SOGS-RA score, which is the sum of the points for all 12 questions, can range from 0 to 12.

Only the 12 scored questions of the SOGS-RA screen were included in the TAYES questionnaire. The questions and details about how each was scored are included in the appendix.

SOGS-RA scores identify problem gambling in one of two ways (Poulin, 2000):

- by using narrow criteria, which consider only the question scores
- by using broad criteria, which consider SOGS-RA scores in conjunction with gambling frequency

In both approaches, predetermined cut-off scores are used to classify adolescents as non-gamblers, non-problem gamblers, at-risk gamblers, or problem gamblers.

TAYES 2002 used broad criteria to interpret survey participants' SOGS-RA scores. (This approach was also used in adolescent gambling studies conducted in the Atlantic provinces in 1998.) To facilitate comparisons of the study's gambling results with its results for alcohol, tobacco, and illicit drug use, TAYES used the labels "hazardous gamblers" to identify individuals at risk of developing gambling problems and "potential problem gamblers" to identify individuals who showed signs of having gambling problems. Most research studies based on SOGS-RA use the terms "at-risk gamblers" and "problem gamblers" instead. This report uses the terms "hazardous" and "problem gamblers."

In the TAYES study, SOGS-RA scores were used in conjunction with gambling frequency to construct a four-level scale of gambling problem severity:

- **Non-gamblers** indicated no gambling behaviour.
- **Non-problem gamblers** reported
  - gambling about once a week and having no problems (SOGS-RA = 0), or
  - gambling less frequently (from once a month to several times a year) and having one of 12 possible problems (SOGS-RA = 1)
- **Hazardous ("at-risk") gamblers** reported
  - gambling weekly and having one problem (SOGS-RA = 1), or
  - gambling less frequently and having two or more problems (SOGS-RA ≥ 2)
- **Problem ("potential problem") gamblers** reported
  - gambling daily (regardless of the SOGS-RA score), or
  - gambling weekly and having two or more problems (SOGS-RA ≥ 2)

Table 1 shows how gambling severity levels were assigned.

**Table 1: Measuring gambling problem severity**

| Gambling frequency | SOGS-RA score 0 | SOGS-RA score 1 | SOGS-RA score 2 or higher |
|---|---|---|---|
| Not at all | Non-gamblers | N/A | N/A |
| Several times a year | Non-problem gamblers | Non-problem gamblers | Hazardous gamblers |
| Less than once a month | Non-problem gamblers | Non-problem gamblers | Hazardous gamblers |
| About once a month | Non-problem gamblers | Non-problem gamblers | Hazardous gamblers |
| About once a week | Non-problem gamblers | Hazardous gamblers | Problem gamblers |
| Daily | Problem gamblers | Problem gamblers | Problem gamblers |

### Limitations

Methodological limitations of TAYES are identified in the technical report (AADAC, 2003d). Only limitations relevant to the analysis of youth gambling behaviour are identified in the following section.

Using a multi-stage stratified sample design requires weighting to adjust the sample proportions to reflect the subpopulation values in their true proportions. Using weighted data has two implications:

1) If the sample is not representative of the strata, applying a weight factor exaggerates the bias.

2) Using weighted data increases level of significance.

As a result, for better representation of the population, the frequencies reported in this summary were based on weighted data. However, statistical tests were conducted on unweighted data so that significance levels could be estimated more accurately.

The small number of young people in some subgroups precluded the use of statistical tests for some proportional differences. For this reason, hazardous and problem gamblers were often reported together.

TAYES results cannot be generalized to youth who are not attending school (e.g., street youth), or to youth who go to private, federal, or provincial schools since these groups were not included in the sample.

The SOGS-RA screening tool used in the TAYES study imposes additional limitations (see "Gambling Screens" in Part II of this report). More research is needed to assess the construct validity of the SOGS-RA. As well, the cut-off points used in this study may overestimate the prevalence of problem gambling. Because the area of adolescent gambling is fairly new and different studies of youth gambling use different screens and cut-off points, comparisons across studies are difficult.

## TAYES Results

### Gambling Behaviour

TAYES findings for Alberta young people in grades 7 to 12 show that the majority (58.8%) do not gamble. Almost a third (31.7%) gamble, but have no gambling problems. A small percentage (5.7%) are classified as hazardous gamblers, and 3.8% have gambling problems (see Table 2).

**Table 2: The prevalence of gambling among Alberta young people in grades 7 to 12***

| Gambling classification level | Percentage of Alberta youth |
|---|---|
| Non-gamblers (no gambling behaviour) | 58.8 |
| Non-problem gamblers (gamble and report 0 or 1 of 12 possible problems) | 31.7 |
| Hazardous gamblers (gamble frequently and report 1 problem OR gamble less frequently and report 2 or more problems) | 5.7 |
| Problem gamblers (gamble daily OR gamble weekly and report 2 or more problems) | 3.8 |

* Gambling problems were identified by using SOGS-RA scores in conjunction with gambling frequency. See p. 7 for details.

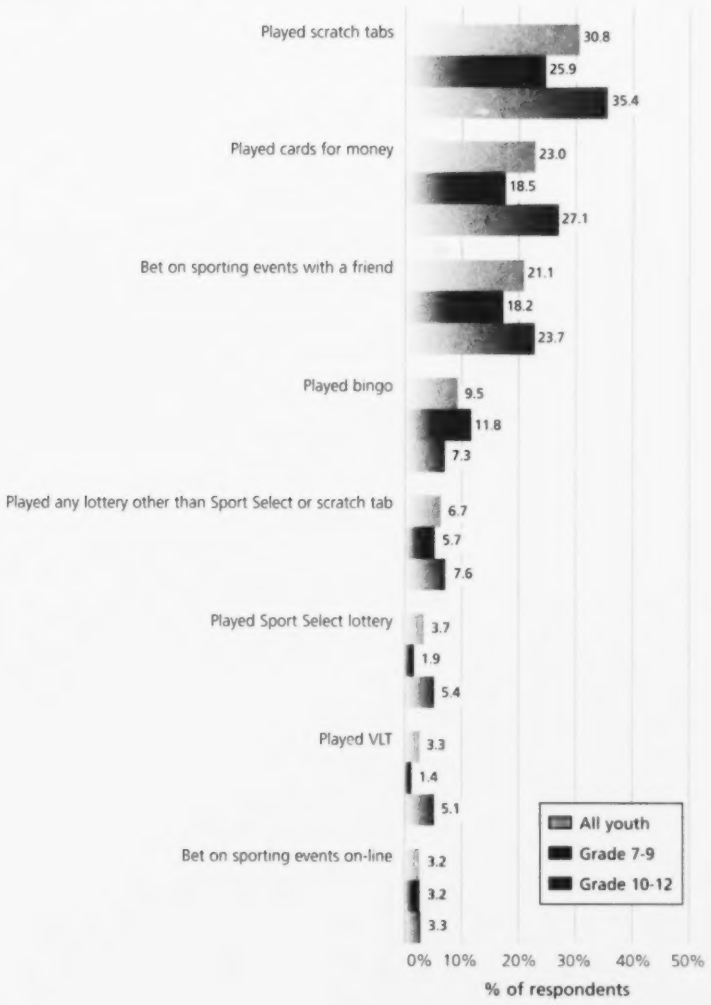
The 41.2% of TAYES participants who gambled indicated how frequently they participated in eight pre-selected gambling activities (see Table 3). Playing scratch tabs was the most common activity. 30.8% of respondents participated. Playing cards for money and betting on sporting events with friends ranked second and third, with participation rates of 23.0% and 21.1% respectively.

**Table 3: Frequency of participation in gambling activities, all Alberta youth (as percentages)**

| | Not at all | At least once in the last 12 months | | | | | |
|---|---|---|---|---|---|---|---|
| | | (Total) | Several times a year | Less than once a month | About once once a month | About once a week | Daily or almost daily |
| Played scratch tabs | **69.2** | **30.8** | 15.9 | 7.8 | 5.2 | 1.7 | 0.3 |
| Played cards for money | **77.0** | **23.0** | 11.8 | 5.2 | 3.8 | 1.5 | 0.7 |
| Bet on sporting events with a friend | **78.9** | **21.1** | 10.9 | 4.7 | 3.0 | 2.1 | 0.4 |
| Played bingo | **90.5** | **9.5** | 6.2 | 2.0 | 0.8 | 0.3 | 0.1 |
| Played a lottery other than Sport Select or scratch tabs | **93.3** | **6.7** | 3.5 | 1.7 | 1.3 | 0.1 | 0.0 |
| Played Sport Select lottery | **96.3** | **3.7** | 1.6 | 0.8 | 0.7 | 0.5 | 0.1 |
| Played a VLT | **96.7** | **3.3** | 1.4 | 1.3 | 0.2 | 0.1 | 0.4 |
| Bet on sporting events online | **96.8** | **3.2** | 1.2 | 0.3 | 0.7 | 0.2 | 0.8 |

Except for bingo, older youth (grades 10 to 12) were more likely than younger youth (grades 7 to 9) to have participated in almost all the gambling activities on the pre-selected TAYES list. As shown in Figure 1, almost 12% of young people in grades 7 to 9 played bingo, compared with 7.3% in grades 10 to 12. The percentage of junior and senior high students who bet on sporting events online was about the same: 3.2% of junior high students bet on sports online versus 3.3% of high school students.

**Figure 1: Participation in gambling activities at least once in least 12 months, all Alberta youth, by grade (as percentages)**



Hazardous or problem gamblers were more likely than non-problem gamblers to have participated in all gambling activities (see Table 4). The difference in participation rates between hazardous or problem gamblers and non-problem gamblers was statistically significant for all gambling activities except playing scratch tabs. Playing scratch tabs was the most common gambling activity for both groups.

**Table 4: Participation in gambling activities, non-problem gamblers versus hazardous or problem gamblers (as percentages)**

| | At least once in the last 12 months | |
|---|---|---|
| | Non-problem gamblers | Hazardous or problem gamblers |
| Played scratch tabs* | 63.2 | 71.1 |
| Played cards for money | 42.4 | 71.0 |
| Bet on sporting events with a friend | 41.6 | 64.7 |
| Played bingo | 17.8 | 25.5 |
| Played a lottery other than Sport Select or scratch tabs | 11.2 | 19.9 |
| Played Sport Select lottery | 1.8 | 22.4 |
| Played a VLT | 4.2 | 14.2 |
| Bet on sporting events online | 2.0 | 17.5 |

* Not statistically significant, p>0.0001

### Youth Gambling: A Demographic Profile

Six demographic variables were used to analyze the gambling behaviour of TAYES participants:

- grade
- gender
- ethnicity
- community size
- community location
- weekly spending money

Grade, gender, ethnicity, and amount of weekly spending money were all significantly related to young people's levels of participation in gambling (see Table 5).

Community size and location were not significantly related to levels of participation in gambling activities (p>0.0001).

**Table 5: Participation in gambling in the last 12 months, all Alberta youth (as percentages)**

| | Participated in one or more gambling activities | Gambling abuse (hazardous or problem gambling) |
|---|---|---|
| **Total** | **41.2** | **9.5** |
| Grade | | |
| Grade 7-9 | 36.8 | 6.4 |
| Grade 10-12 | 45.3 | 12.4 |
| Gender | | |
| Male | 53.4 | 15.4 |
| Female | 32.1 | 5.1 |
| Ethnicity | | |
| Aboriginal | 41.4 | 14.4 |
| Non-Aboriginal | 34.4 | 9.4 |
| Weekly spending money* | | |
| Less than $10 | 29.1 | 7.8 |
| $11-$30 | 34.7 | 8.5 |
| $31-$50 | 42.5 | 15.7 |
| More than $50 | 68.1 | 28.0 |
| No set amount | 42.9 | 8.5 |

* Caution is required in interpreting the findings regarding weekly spending money because the number of respondents in some categories was small.

### *Age and Grade Level*

High school students (grades 10 to 12) were more likely than junior high students (grades 7 to 9) to gamble. Nearly half (45.3%) of high school students reported having participated in one or more gambling activities in the 12 months before the survey. The corresponding rate for junior high students was 36.8%. Gambling participation rates seemed to increase with the age and grade level of survey respondents.

High school students were more likely to be hazardous or problem gamblers than junior high students. More than 6% of junior high students who gambled were hazardous or problem gamblers. Of high school students who gambled, more than 12% were hazardous or problem gamblers.

### *Gender*

More males (53.4%) than females (32.1%) gambled. More males (15.4%) than females (5.1%) were classified as hazardous gamblers or problem gamblers.

### *Ethnicity*

Aboriginal youth were more likely than non-Aboriginal youth to have participated in one or more gambling activities and to have experienced hazardous or problem gambling. However, this result must be interpreted with caution because TAYES did not include Aboriginal youth attending on-reserve schools under federal jurisdiction. In addition, the demographic profile of Aboriginal youth differs from that of non-Aboriginal youth, and the number of Aboriginal youth in the sample was small.

TAYES found that 41.4% of Aboriginal youth and 34.4% of non-Aboriginal youth gambled. Of all Aboriginal youth, 14.4% were hazardous or problem gamblers. Of all non-Aboriginal youth, 9.4% were hazardous or problem gamblers.

### *Community Location and Size*

In spite of the observed variation across the province, chi-square analysis shows that neither community size nor community location were significantly related to young people's levels of participation in gambling.

### *Spending Money*

Of Alberta youth who had more than $50 spending money per week, 68.1% gambled and 28.0% were hazardous or problem gamblers. Among young people who had less than $10 spending money per week, only 29.1% gambled and 7.8% were hazardous or problem gamblers. Caution is required in interpreting these findings because the number of respondents in some categories was small.

## Problem Gambling Among Alberta Youth

The 9.5% of TAYES participants classified as hazardous or problem gamblers represent nearly 22,000 Alberta adolescents. Problem gambling behaviour was measured by combining gambling frequency with scores from the South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA). SOGS-RA collects information about 12 specific gambling problems, as shown in Table 7.

Of all Alberta youth who gamble, a large majority (62.7%) reported no problems related to their gambling; that is, their SOGS-RA score was 0. An additional 18.1% of youth gamblers reported having one problem: their SOGS-RA score was 1. Unless these young people also gambled about once a week or daily, they were classified as non-problem gamblers.

Among hazardous and problem gamblers, 83.2% reported having had two or more of 12 of the gambling problems measured by SOGS-RA (see Table 6). Within this group, 0.1% reported having all 12 problems.

**Table 6: Prevalence of gambling problems among Alberta youth who gamble (as percentages)**

| Number of reported gambling problems (as measured by SOGS-RA) | All Alberta youth who gamble | Non-problem gamblers | Hazardous and problem gamblers |
|---|---|---|---|
| 0 | 62.7 | 80.4 | 3.7 |
| 1 | 18.1 | 19.6 | 13.2 |
| 2 or more | 19.2 | 0.0 | 83.2 |
| TOTAL: | 100 | 100 | 100 |

Alberta youth who gamble were most likely to report the following problems related to their gambling:

- having gambled to recoup lost gambling money (26.4%)
- feeling bad about gambling (16.5%)
- having gambled more than they had planned (13.9%)

**Table 7: SOGS-RA problems experienced by Alberta youth who gamble (as percentages)**

| | All Alberta youth who gamble | Non-problem gamblers | Hazardous and problem gamblers |
|---|---|---|---|
| Gambled to recoup lost gambling money | 26.4 | 17.4 | 58.1 |
| Felt bad about gambling | 16.5 | 5.8 | 44.1 |
| Gambled more than what was planned | 13.9 | 2.1 | 46.2 |
| Borrowed and didn't repay money for gambling | 8.6 | 2.2 | 28.0 |
| Hid gambling behaviour | 5.6 | 0.9 | 18.2 |
| Heard criticism about their gambling | 5.0 | 0.4 | 9.7 |
| Wanted to stop gambling | 4.7 | 2.1 | 17.0 |
| Lied about gambling winnings | 4.1 | 1.7 | 18.2 |
| Had school, work, or relationship problems because of gambling | 3.7 | 1.3 | 19.0 |
| Skipped school to gamble | 3.0 | 0.5 | 8.1 |
| Borrowed money or stole to gamble or cover gambling debts | 3.0 | 0.3 | 13.4 |
| Had arguments caused by gambling behaviour | 1.5 | 0.2 | 10.5 |

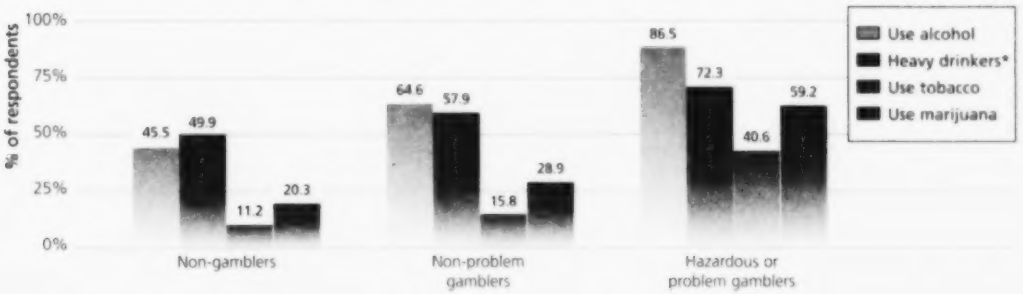
An analysis of demographic characteristics shows that hazardous and problem gamblers were more likely to

- be male
- be in higher grades
- be Aboriginal
- have more weekly spending money

TAYES found that although hazardous and problem gamblers were more likely to have started gambling at a younger age than non-problem gamblers had, the difference was not statistically significant.

Hazardous and problem gamblers were significantly more likely to use alcohol, drink heavily, use tobacco, and use marijuana ($p<0.0001$).

**Figure 2: Use of other substances by gambling problem severity level**




* Heavy drinkers were defined as those respondents who consumed 5 or more drinks once a week or more.

## Risk Factors

Risk factors are defined as life events or experiences that are statistically associated with an increase in problematic behaviour such as problem gambling (Hawkins, Catalano, & Miller, 1992).

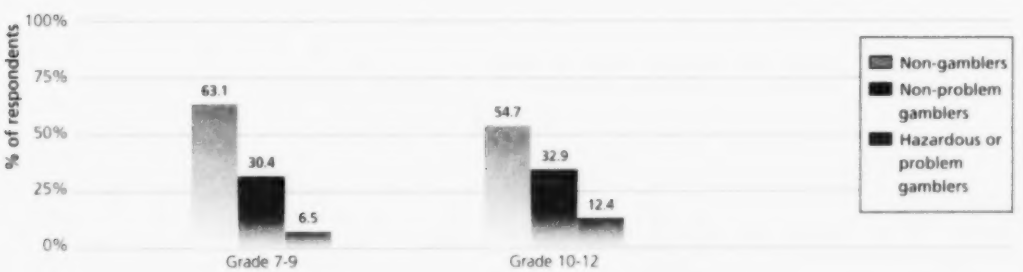
TAYES examined 19 risk factors within the context of the individual, the family, peers, school, and the community. The following five were most closely associated with youth gambling and problem gambling ($p<0.0001$):

- age*
- peer risk behaviour
- family history of substance abuse
- school disconnection
- signs of leaving school early

### *Age*

Older adolescents (in grades 10 to 12) were significantly more likely to have gambled and to be hazardous or problem gamblers than younger adolescents (in grades 7 to 9). As Figure 3 shows, only 6.5% of youth in grades 7 to 9 were hazardous or problem gamblers, versus 12.4% of youth in grades 10 to 12.

**Figure 3: Grade level as an indicator of gambling participation levels (as percentages)**




* This report uses grade level as a proxy for age.

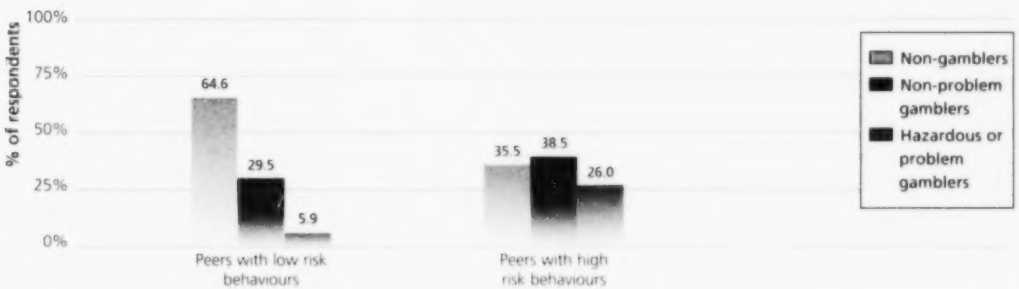
***Peer Risk Behaviour***

Peer risk behaviour was measured by asking TAYES participants a series of questions about the behaviour of their close friends:

- Did their close friends smoke cigarettes?
- Did they drink alcohol?
- Did they break the law?
- Had they tried cannabis?
- Did they use cannabis regularly?
- Had they tried drugs other than cannabis?
- Did they gamble or bet on things for money?

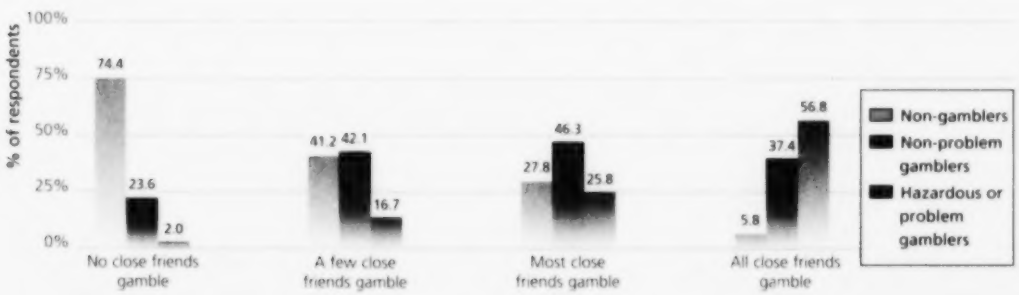
As shown in Figure 4, of youth who had peers with low-risk behaviour (that is, they did not smoke, drink alcohol, abuse drugs, break the law, or gamble) only 5.9% were hazardous or problem gamblers. Of youth who had peers with high-risk behaviour, over a quarter (26%) were hazardous and problem gamblers.

**Figure 4: Risk behaviour of peers as an indicator of gambling participation levels (as percentages)**




A secondary finding from the TAYES analysis of peer risk behaviour showed a significant relationship between having close friends who gamble and severity of gambling problems. As shown in Figure 5, of youth who reported that none of their close friends gamble, only 2% were hazardous or problem gamblers. Nearly three-quarters of these youth were non-gamblers. In contrast, of youth who reported all of their close friends gambled, 56.8% were hazardous or problem gamblers, and only 5.8% were non-gamblers.

**Figure 5: Number of close friends who gamble as an indicator of gambling participation levels (as percentages)**

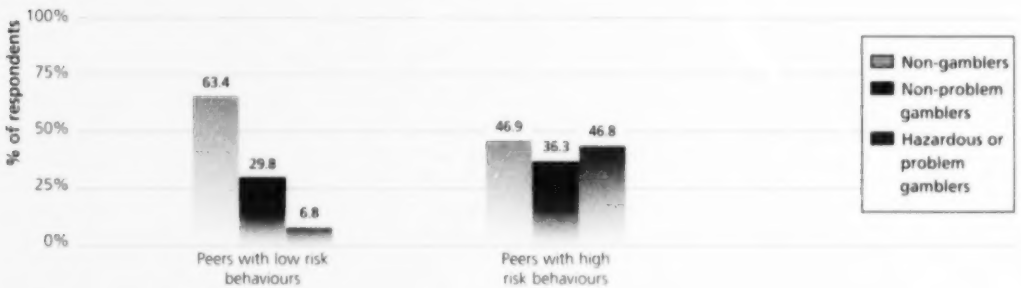


### *History of Family Substance Abuse*

The TAYES definition of family substance abuse was having someone with a severe alcohol or drug problem in one's immediate family.

As shown in Figure 6, young people who have a family history of substance abuse were more likely to be hazardous or problem gamblers. Of youth who had a family history of substance abuse, 16.8% were hazardous or problem gamblers, versus only 6.8% of youth with no family history of substance abuse.

**Figure 6: Family history of substance abuse as an indicator of gambling participation levels (as percentages)**



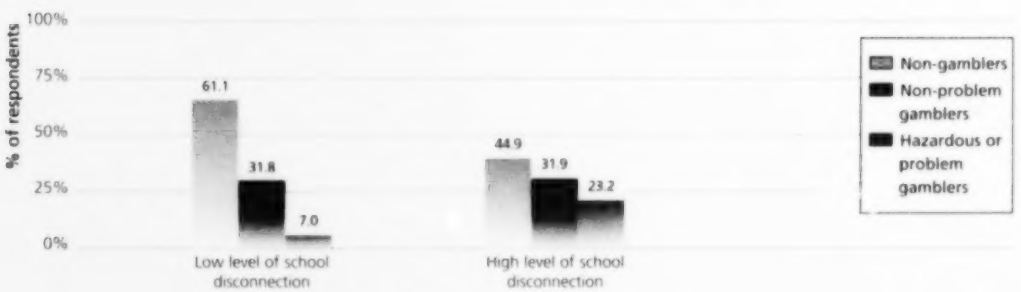

### *School Disconnection*

School disconnection was measured by asking participants a series of questions related to their feelings about school:

- Did they like school?
- Did they understand their school work and find it interesting?
- Did they complete their assignments and try to do their best?
- Had they been sent to the office or disciplined for misbehaving?

Youth who felt disconnected from school were more likely to be hazardous or problem gamblers. As shown in Figure 7, of youth who reported high levels of disconnection from school, 23.2% were hazardous or problem gamblers. In contrast, only 7% of youth who reported low levels of school disconnection were hazardous or problem gamblers.

**Figure 7: School disconnection as an indicator of gambling participation levels (as percentages)**

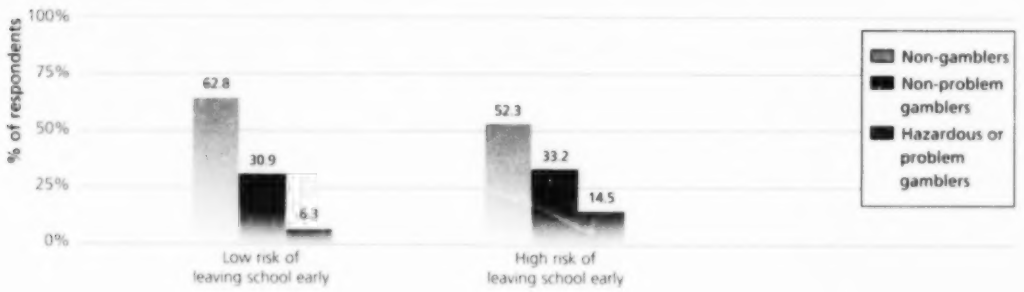


### *Signs of Leaving School Early*

The frequency with which TAYES participants skipped school or missed classes because they were ill was used as a measure of their likelihood to leave school early.

Youth who showed signs of leaving school early were more likely to be hazardous or problem gamblers. As shown in Figure 8, of youth who showed signs of leaving school early, 14.5% were hazardous or problem gamblers, versus 6.3% of youth who did not show signs of leaving school early.

**Figure 8: Signs of leaving school early as an indicator of gambling problem severity (as percentages)**



# PART II

# RELATED YOUTH GAMBLING RESEARCH— A LITERATURE REVIEW

## Research Methods

Research about youth gambling is not as widespread as research about tobacco, alcohol, or drug use among adolescents. Even when data exist, the different methodologies, sample characteristics (demographics), and measurement tools used in different studies make comparative analyses difficult.

Different researchers use different theoretical constructs and criteria to define problem gambling. The issue is further complicated by the fact that the terms problem gambling, compulsive gambling, and pathological gambling are sometimes used interchangeably. Different gambling screens use different measures of problem gambling, and even when research studies use the same screen, different scoring methods complicate cross-study comparisons. The lack of comparability across research studies makes it difficult to analyze the prevalence of problem gambling. It also makes it difficult to assess whether problem gambling is on the rise.

To date, most research about adolescent gambling behaviour has been prevalence based (Rossen, 2001, p. v): its primary purpose has been to determine the percentage of young people who gamble. Few qualitative, longitudinal or quasi-experimental studies have been conducted.

## Gambling Screens

Gambling studies over the years have used a variety of methods and measurement tools (screens) to measure the prevalence of adolescent gambling. Commonly used screens (Rossen, 2001; Derevensky, Gupta, & Winters, 2003) include

- DSM-IV-J (Diagnostic and Statistical Manual of Mental Disorders-IV-Juveniles)
- Gambler's Anonymous 20 Questions
- MAGS (Massachusetts Adolescent Gambling Scale)
- Pathological Gambling Signs Index
- SOGS-RA (South Oaks Gambling Screen-Revised for Adolescents), which was used in the TAYES study

SOGS-RA offers a number of advantages over other gambling screens (Langhinrichsen-Rohling et al., 2004):

- Because it is so widely used, cross-study comparisons can often be made.
- Because it measures gambling over a 12 month period, it can be used to detect current gambling problems and to measure changes in gambling behaviour over time or in response to treatment.
- It identifies non-gamblers as well as gamblers and provides a means of classifying gambling behaviour as non-problem, at-risk (called "hazardous" in TAYES), and problem gambling.

In spite of these advantages, recent studies (Ladouceur et al., 2000) have questioned the validity of results obtained with SOGS-RA, which may overstate youth gambling rates because survey respondents misunderstand the questions. Some researchers (Derevensky & Gupta, 2000, citing Ferris, Wynne, & Single, 1999) also note that SOGS-RA, like most other screens that measure youth gambling, was not adequately tested with females and its results for female problem gamblers may therefore be unreliable.

Another significant disadvantage is that SOGS-RA was not specifically designed to correspond to the American Psychiatric Association's diagnostic criteria for pathological gambling. This raises questions about what cut-off point should be used to define problem gambling (Langhinrichsen-Rohling et al., 2004).

Different cut-off points and different approaches to SOGS-RA scoring make cross-study comparisons difficult. For example, the TAYES study identified hazardous (at-risk) and problem gamblers according to a "broad" definition which considered gambling frequency in conjunction with SOGS-RA scores. Poulin (2000, pp. 58-62) used a similar approach in her studies in the Atlantic provinces in 1998. However, Poulin's 2002 studies (2002a, 2002b) in the Atlantic provinces and the 2003 Ontario Student Drug Use Survey (OSDUS) (Centre for Addiction and Mental Health [CAMH], 2003) identified hazardous

(at-risk) and problem gamblers according to a "narrow" definition based on SOGS-RA scores alone. Using an approach based on frequency plus scores identifies higher rates of at-risk and problem gambling than would a strictly scores-based approach (Poulin, 2000).

As well, in contrast to the TAYES (conducted in October/November), these other studies were conducted between December and June; studies conducted in the winter and spring are known to report higher rates of gambling and substance abuse problems (C. Poulin and E. Adlaf, personal communication, December, 2004).

There are significant discrepancies between the number of adolescents who classify themselves as problem gamblers and the numbers of problem gamblers indicated by commonly used screens: this suggests that the screening instruments currently in use may lack sufficient construct validity (Derevensky et al., 2003; Hardoon, Derevensky, & Gupta, 2003).

## Gambling Behaviour

Rossen (2001) reports that findings from research studies conducted in Canada, the United States, New Zealand, and the United Kingdom between 1987 and 2000 show that between 20.5% and 99.0% of adolescents have gambled within their lifetimes. Differences in methods, samples, and measurement screens make meaningful comparisons and analyses of these results difficult. They also account for the wide variability of study results (Rossen, 2001; Hardoon & Derevensky, 2002).

Table 8 summarizes the results of Canadian studies of youth gambling conducted in eight provinces between 1998 and 2003. Although caution should be used when comparing across studies, Alberta had the lowest rate of youth gambling (41.2%), followed by Quebec and British Columbia (with rates of about 51%). Manitoba reported the highest rate (78.0%), although this may be related to the age of the study, or the timing of the study. In Prince Edward Island, for example, the youth gambling rate declined from about 70% in 1998 to 58.0% in 2002 (Van Til & Poulin, 2002).

Alberta's rate of at-risk and problem gambling (9.5%) is third highest among five provinces.

**Table 8: A profile of gambling among Canadian youth[2]**

| | British Columbia | Alberta | Manitoba | Ontario | Quebec | New Brunswick | Nova Scotia | Prince Edward Island |
|---|---|---|---|---|---|---|---|---|
| Year of Study | 2003 | 2002 | 1999 | 2003 | 2002 | 2002 | 2002 | 2002 |
| Grade | 7 to 12 | 7 to 12 | age 12 to 17 | 7 to 12 | Secondary 1 to 5 | 7, 9, 10, 12 | 7, 9, 10, 12 | 7, 9, 10, 12 |
| Sample Size | 30,500 | 3,394 | 1,000 | 6,616 | 4,800 | 3,854 | 4,247 | 2,416 |
| Gambling Screen | - | SOGS-RA + gambling frequency | SOGS-RA | SOGS-RA | DSM-IV-J | SOGS-RA | SOGS-RA | SOGS-RA |
| SOGS-RA Cut-off for Problem Gambling | - | daily gambling or 2+ and weekly gambling | 4+ | 4+ | N/A | 4+ | 4+ | 4+ |
| Percentage of youth who gambled in the 12 months preceding each study | | | | | | | | |
| Total | 51.0% | 41.2% | 78.0% | - | 51.1% | 57.7% | 63.3% | 58.0% |
| Males | 60.0% | 53.4% | - | - | 52.8% | - | 68.6% | 64.0% |

* Data for this table were drawn from the following reports: Adlaf, Paglia-Boak, Beitchman & Wolfe, 2004; AADAC, 2003d; CAMH, 2003, 2004; Chevalier & Deguire, 2003; Chevalier, Deguire, Gupta, & Derevensky, 2003; McCreary Centre Society, 2004; New Brunswick Department of Health and Wellness, 2003; Poulin 2002a, 2002b; Van Till & Poulin, 2002; Wiebe, 1999. The chart of gambling prevalence studies on the Alberta Gaming Research Institute (n.d.) website includes hyperlinks to most of these reports. See www.abgaminginstitute.ualberta.ca/prevalence_canada.cfm.

Studies of young people across North America have shown that the following four gambling activities are most popular (Jacobs, 2003):

- lottery games
- cards, dice and board games
- games of personal skill
- sports betting (usually with friends)

TAYES found similar results: playing scratch tabs, playing cards for money and betting on sporting events with friends were the three most popular gambling activities among Alberta youth (the level of youth participation in "games of personal skill" is not known since this activity was not included in the list contained in the survey). AADAC youth clients who received treatment for problem gambling in 2002-2003 and 2003-2004 (AADAC 2003a, 2004) identified the same three activities as their most common gambling activities.

In Alberta—as elsewhere in Canada—age restrictions on certain types of gambling do not appear to eliminate youth participation. Although it is illegal for minors to buy scratch tickets, 25.9% of Alberta youth gamblers in grades 7 to 9 and 35.4% of youth gamblers in grades 10 to 12 played scratch tabs. Felsher, Derevensky & Gupta (2004) found a similar pattern in their study of 1,072 Ontario youth aged 10 to 18. They noted that most study participants were aware of the age requirement for buying scratch tabs and other types of lottery tickets. However, regardless of their age, participants reported few if any difficulties in purchasing lottery tickets and one third specifically went to a store to buy them.

Rossen (2001, pp. 16 and 20) cites increasing evidence that young people generally gamble for fun or excitement and notes that, overall, "young people appear to prefer gambling with their peers." Recent studies in Manitoba (Wiebe, 1999) and Alberta (Wynne, Smith & Jacobs, 1996a, 1996b) support this observation. Both Manitoba and Alberta adolescents identified entertainment or fun as their main reason for gambling. Other reasons for gambling included

- for excitement or as a challenge
- to win money
- to support worthy causes
- to do things with friends

In spite of the findings from the Alberta and Manitoba studies, the literature on adolescent gambling research is not conclusive about whether money is a motivating factor. Rossen (2001, citing Carlson & Moore, 1998; Wallisch, 1996) observes that most youth gamblers do not feel gambling is a good way to make money. Gupta and Derevensky (2000, p. 321) also found that money is not the main reason young people gamble:

> Money is merely used as a means to enable youth to continue gambling...When gambling, adolescents with serious gambling problems report that all their problems disappear... [Gambling] makes their adrenaline flow, their heart rate increase, and their excitement intensify. These same physiological responses are reported whether they win or lose.

## Youth Gambling: A Demographic Profile

### Age and Grade Level

Rossen (2001) notes that many gambling researchers have found an overall relationship between age and participation in gambling activities: older adolescents are more likely to gamble than younger adolescents.

The results of TAYES are consistent with this finding. Adolescent gambling studies in Quebec (Chevalier & Deguire, 2003) and British Columbia (McCreary Centre Society, 2004) also showed that gambling participation increased as age and grade level increased. However, studies in Ontario and Nova Scotia suggest that the link between age and gambling participation may require further investigation. A 2001 study of Nova Scotia youth found no relationship between at-risk and problem gambling and age (Poulin, 2002a). Results from Ontario have been mixed.

Some research studies suggest a link between the age at which young people start gambling and the development of gambling problems (Fisher, 1993; Huxley & Carroll, 1992; Jacobs, 1989; Wallisch, 1996 [as cited in Rossen, 2001]). Other studies find no connection, but suggest that the type and nature of an individual's first gambling experience may be linked to gambling problems (Smith & Wynne, 2002).

TAYES found that, although hazardous and problem gamblers were likely to have started gambling at a younger age than non-problem gamblers did, the difference was not statistically significant.

### Gender

In her literature review of adolescent gambling, Rossen (2001) found that research findings regarding gender and preferences for certain types of gambling are inconsistent and contradictory, and the mechanisms responsible for observed gender differences are poorly understood. Nonetheless, Rossen found general agreement that males are more involved in gambling than females and experience more gambling-related problems. TAYES and other Canadian studies generally support these observations (see Table 8), as do studies across North America (Hardoon & Derevensky, 2002).

With regard to problem gambling, Rossen's literature review (2001) found that the magnitude of gender differences varies according to the screen used. She notes that males may tend to score higher because

gambling research to date has focused on male experiences. Screens for problem gambling largely ignore the possibility that male and female gamblers may have different characteristics, culture, motivators, interpretations, and experiences. This may result in inaccurate conclusions, especially for females.

### Ethnicity

> The role of ethnicity in gambling behaviour is unclear. Some studies have found no relationship between ethnicity and problem gambling...However, a substantial number have found significant relationships, with adolescents from ethnic minority groups being more likely to gamble and to exhibit problematic gambling behaviour than youth from non-minority groups. (Rossen, 2001, p. 14)

In their 2001 review of research literature about Aboriginal gambling in North America, Wardman, el-Guebaly, and Hodgins (2001) found rates of problem gambling for Aboriginal adolescents and adults to be two to almost 16 times higher than those in non-Aboriginal populations. However, given the lack of culturally sensitive survey techniques and given that there are concerns about the appropriateness of the sampling methods and measurement tools, Wardman et al. question the validity of these results and note that further research is required.

Although TAYES found higher rates of gambling and problem gambling among Aboriginal youth than among non-Aboriginal youth, the validity of these results is subject to the same questions with regard to appropriate, culturally sensitive survey techniques. A further caution with respect to TAYES is that the study did not include Aboriginal students attending on-reserve schools. As well, the demographic profile of Aboriginal and non-Aboriginal youth differs, and the number of Aboriginal youth in the sample was small.

Although few research studies have addressed adolescent gambling in minority populations (Rossen, 2001), there is a perception that a high prevalence of gambling exists within the Asian population (James, 2003). Further research is needed to determine if this is the case.

TAYES did not explore the relationship between ethnicity and gambling except with regard to Aboriginal versus non-Aboriginal youth.

### Spending Money

The relationship between gambling and the amount of spending money adolescents have at their disposal is unclear (Rossen, 2001). Some researchers (Wiebe, 1999) found that non-gamblers had significantly lower incomes than gamblers. Others (Winters, Stinchfield, & Fulkerson, 1993 [as cited in Rossen, 2001]) found no significant relationship between weekly income and gambling.

TAYES found a significant relationship between gambling and hazardous or problem gambling and the amount of weekly spending money Alberta young people had at their disposal (see Table 5 for details). However, caution is required in interpreting these findings because the number of respondents in some categories was small.

## Risk Factors

The research literature (Wynne, Smith & Jacobs, 1996b; Rossen, 2001; Hardoon & Derevensky, 2002) suggests that young people who are at-risk (hazardous) and problem gamblers are more likely than other adolescents to

- be male
- take greater risks in general, be aroused and excited by gambling, and feel that they can control the outcome of their gambling activities
- have parents with gambling or other addiction issues
- drink, smoke, abuse drugs, and have difficulty at school
- experience depression and have poor coping skills, low self-esteem, and higher rates of attempted suicide
- have access to gambling opportunities

TAYES found similar results. Alberta adolescents who were hazardous or problem gamblers were more likely to be male; use alcohol, drink heavily, and use tobacco and marijuana; have a family history of substance abuse; feel disconnected from school; and show signs of leaving school early. They were also more likely to be Aboriginal, be in higher grades, have more weekly spending money, and have close friends who smoked, drank alcohol, took drugs, or gambled.

## Discussion and Conclusions

### Patterns, Profiles and Consequences

Young people in Alberta exhibit the same general patterns of gambling participation as other North American youth (AADAC, 2003b). The rate of gambling participation and the incidence of problem gambling behaviour in Alberta are comparable to or lower than in other parts of Canada. As shown in Table 8, Alberta has the lowest gambling prevalence (41.2%) of the eight provinces for which data are available. Its rate of at-risk and problem gambling (9.5%) is third highest among five provinces.

The majority of young people in Alberta (58.8%) do not gamble. Among young people who gamble, most have no gambling problems. Among those who show signs of at-risk (hazardous) or problem gambling, only a small percentage have serious gambling problems.

Even though less than 10% of all young people in Alberta are classified as hazardous or problem gamblers, this represents more than 22,000 individuals for whom gambling may cause "psychological, social, economic, health, and interpersonal difficulties" (Derevensky et al., 2003, p. 422). Hardoon and Derevensky (2002) note that adolescent gamblers are at risk of developing multiple addictions such as addictions to alcohol, tobacco, or drugs. They are also more likely than other adolescents to experience depression, skip school, get poor marks, and be involved with the police (Rossen, 2001).

### The Social Context

Gupta and Derevensky (2000, p. 10) note that the young people of today are "the first generation of youth spending their entire lives in an environment in which gambling is sensationalized, advertised, and government supported and endorsed." James (2003) notes that, over the past 10 years, changes in government policy in Alberta have made an increasing variety of gambling activities legally available and resulted in the proliferation of satellite bingo, sports betting, electronic gambling using VLTs and slot machines, and online gambling. She observes that researchers expect continued expansion to "lead to an increase in spending and an increase in problem gambling rates—with teens, young adults and Aboriginal Albertans at most risk" (James, 2003, p. 16).

Hardoon and Derevensky (2002) cite the easy accessibility and social acceptability of gambling as primary reasons for the prevalence of gambling among today's youth. Nonetheless, the social acceptability of gambling "remains a contentious policy issue in Canada" (Azmier, 2001b, p. 10). Hardoon and Derevensky (2002, citing Azmier's 2000 study of gambling behaviour and attitudes) note that Canadians see gambling as a personal right as well as an acceptable activity, and feel that gambling is a less serious social problem than drug or alcohol addiction, smoking, and reckless driving. However, Azmier cautions that, whereas some Canadians see gambling as "harmless entertainment" that helps to fund social programs, others view it as "a waste of time" that takes advantage of problem gamblers for the sake of profit (2001b, p. 10).

### The Future of Gambling Research

Compared with research about alcohol, tobacco or substance abuse, research about adolescent gambling is a relatively new field. Since few longitudinal, qualitative or psychometric studies have been conducted, the underlying causes of problem gambling behaviour and its associated levels of harm are poorly understood. Issues such as

the role of gender and ethnicity have not been investigated to any great extent.

Gambling researchers recognize the following tasks must still be completed:

- Clarify issues related to gambling terminology and develop standard operational definitions of gambling and problem gambling in the adolescent population.
  - The Ontario Problem Gambling Research Centre is working with other provinces to develop standard definitions.
- Address the validity of screening tools such as SOGS-RA and develop a "gold standard" instrument with which to measure adolescent gambling. Langhinrichsen-Rohling et al. note that the instrument should be capable of differentiating non-gamblers from non-problem gamblers, and that it should "have an empirically determined method for determining probable pathological gambling, as defined by the DSM-IV" (2004, p. 280).
  - The Ontario Problem Gambling Research Centre is working with other provinces to develop the Adolescent Problem Gambling Instrument—a valid survey instrument to assess gambling behaviour and identify problem gambling in adolescents (n.d.).
- Develop culturally sensitive research techniques and appropriate tools to measure adolescent gambling behaviour among Aboriginals and other ethnic groups.
- Investigate issues such as the role of gender and the ease with which young people can gain access to age-restricted gambling activities.
- Determine what constitutes effective gambling prevention and treatment programs.
- Define the nature and full extent of gambling problems among young people.
- Identify the full range of risk and protective factors and develop an increased understanding of their respective contributions to problem gambling and concurrent problems, particularly other addictions.

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# APPENDIX

## South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA)

Gambling abuse was measured by frequency of gambling behaviour combined with SOGS-RA scores. Frequency of gambling behaviour was measured by asking respondents to indicate how often they gambled or bet on eight activities for money (see Table 3 for the list of activities).

The SOGS-RA scale was constructed from answers to TAYES questions 11-22. The questions, response categories, and SOGS-RA scores are presented below.

### Question 11

In the LAST 12 MONTHS, how often have you gone back another day to try to win back the money you lost?

| RESPONSE | POINTS |
|---|---|
| Never | 0 |
| Some of the time | 0 |
| Most of the time | 1 |
| Every time | 1 |

### Question 12

In the LAST 12 MONTHS, when you were betting, have you ever told others you were winning money when you really weren't winning?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 13

In the LAST 12 MONTHS, have you ever gambled more than you had planned to?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 14

Has your betting, in the LAST 12 MONTHS, ever caused any problems for you such as arguments with family and friends, or problems at school or work?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 15

In the LAST 12 MONTHS, has anyone criticized your betting or told you that you had a gambling problem, regardless of whether you thought it was true or not?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 16

In the LAST 12 MONTHS, have you ever felt bad about the amount you bet, or about what happens when you bet money?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 17

In the LAST 12 MONTHS, have you ever felt that you would like to stop betting money but didn't think you could?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 18

In the LAST 12 MONTHS, have you ever hidden any betting slips, I.O.U.s, lottery tickets, money that you've won, or other signs of gambling from family or friends?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 19

In the LAST 12 MONTHS, have you had arguments with family or friends because of the money you spend on gambling?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 20

In the LAST 12 MONTHS, have you borrowed money to bet and not paid it back?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 21

In the LAST 12 MONTHS, have you ever skipped or been absent from school or work due to betting activities?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

### Question 22

In the LAST 12 MONTHS, have you borrowed money or stolen something in order to bet or to cover gambling debts?

| RESPONSE | POINTS |
|---|---|
| No | 0 |
| Yes | 1 |

The SOGS-RA score equals the sum of all the points for all 12 questions. Scores can range from 0 to 12.

Alberta Alcohol and Drug Abuse Commission
An Agency of the Government of Alberta

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